

REMARKS**INTRODUCTION:**

In accordance with the foregoing, claims 15, 23, 26, 27, 28, 36, and 37 have been canceled without prejudice or disclaimer, claims 13, 16, 18, 20, 21, 24, 25, 29, 34 and 35 have been amended, and new claim 38 has been added. No new matter is being presented, and approval and entry are respectfully requested.

Claims 1-14, 16-22, 24-25, 29-35 and 38 are pending and under consideration. Reconsideration is respectfully requested.

ALLOWABLE SUBJECT MATTER:

A. In the Office Action, at page 4, numbered paragraph 6, claims 1-12 were allowed over the prior art of record.

Applicants thank the Examiner for his careful review and allowance of claims 1-12.

B. In the Office Action, at page 4, numbered paragraph 7, claims 15-20, 28, and 29 were objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Independent claim 13 has been amended to include the features of claim 15, and claim 15 has been canceled without prejudice or disclaimer. Claims 16, 18, and 20 have been amended to depend from amended claim 13. Hence, it is respectfully submitted that amended independent claim 13 is in allowable form in accordance with the Examiner's suggestions, and that the claims depending therefrom, claims 14, 16, 17, 18, 19, and 20, are then also allowable.

Independent claim 21 has been amended to include the features of claims 23, 26, 27 and 28. Claims 23, 26, 27 and 28 have been canceled without prejudice or disclaimer. Claims 24, 25, and 29 have been amended to depend from amended independent claim 21. Hence, it is respectfully submitted that amended independent claim 21 is in allowable form in accordance with the Examiner's suggestions, and that claims depending therefrom, claims 22, 24, 25, 29, 30, 31, 32, and 33, are then also allowable.

REJECTION UNDER 35 U.S.C. §102:

In the Office Action, at page 2, numbered paragraph 2, claims 13, 14, 21-27 and 30-34 were rejected under 35 U.S.C. §102(e) as being anticipated by Shiue et al. (USPN 6,816,548; hereafter, Shiue). This rejection is traversed and reconsideration is requested.

Independent claims 13 and 21 have been amended as indicated above, in accordance with the Examiner's suggestions with respect to allowable subject matter on page 4 of the Office Action. Claims 23, 26, 27 and 28 have been canceled without prejudice or disclaimer. Hence, since claims 14, 22, 24, 25, 29, 30, 31, 32, and 33 depend, directly or indirectly, from amended independent claims 13 and 21, claims 14, 22, 24, 25, 29, 30, 31, 32, and 33 are allowable for at least the reasons amended independent claims 13 and 21 are allowable.

Claim 34 has been amended to recite the operations of FIG. 7 (see paragraphs [0052] through [0058] and FIG. 7).

It is respectfully submitted that Shiue does not teach or suggest a method of performing a channel equalization with respect to symbols of an input signal in a single carrier receiver, the method comprising: removing a pre-ghost of respective symbols of the input signal using a feed-forward filter and outputting a signal M; removing a post-ghost of respective symbols of the input signal using a feedback filter and outputting a signal L; adding the signal M and the signal L and outputting a resultant sum signal Y; trellis-decoding, by a trellis decoder, the resultant sum signal Y to output a plurality of trellis-decoded symbols; determining a level of the resultant sum signal Y to be a nearest one among predetermined levels and providing a signal D of the determined level to the feedback filter and an error calculator; calculating an error value E as a difference between the resultant sum signal Y and the signal D of the determined level and outputting the error value E to the feed-forward filter, the feedback filter, and a trellis control unit, wherein, when a SNR corresponding to the error value E is equal to or greater than a predetermined threshold, the trellis decoder inputs the plurality of trellis-decoded symbols to the feedback filter, as is recited by amended claim 34.

Hence, it is respectfully submitted that claims 13, 14, 21-22, 24-25 and 30-34 are not anticipated under 35 U.S.C. §102(e) by Shiue et al. (USPN 6,816,548).

REJECTION UNDER 35 U.S.C. §103:

In the Office Action, at page 3, numbered paragraph 5, claims 35-37 were rejected under 35 U.S.C. §103(a) as being unpatentable over Shiue et al. (USPN 6,816,5498; hereafter, Shiue) in view of the admitted prior art figure 2 of the instant application. The reasons for the rejection are set forth in the Office Action and therefore not repeated. The rejection is traversed and reconsideration is requested.

Claim 34 has been amended to recite: "a method of performing a channel equalization with respect to symbols of an input signal in a single carrier receiver, the method comprising: removing a pre-ghost of respective symbols of the input signal using a feed-forward filter and outputting a signal M; removing a post-ghost of respective symbols of the input signal using a

feedback filter and outputting a signal L; adding the signal M and the signal L and outputting a resultant sum signal Y; trellis-decoding, by a trellis decoder, the resultant sum signal Y to output a plurality of trellis-decoded symbols; determining a level of the resultant sum signal Y to be a nearest one among predetermined levels and providing a signal D of the determined level to the feedback filter and an error calculator; calculating an error value E as a difference between the resultant sum signal Y and the signal D of the determined level and outputting the error value E to the feed-forward filter, the feedback filter, and a trellis control unit, wherein, when a SNR corresponding to the error value E is equal to or greater than a predetermined threshold, the trellis decoder inputs the plurality of trellis-decoded symbols to the feedback filter," which is not taught or suggested by Shiue and/or the admitted prior art figure 2 of the instant application.

It is respectfully submitted that, even if combined, Shiue and the admitted prior art figure 2 of the instant application do not teach or suggest amended claim 34 of the present invention.

Claim 35 has been amended to recite "further including, after the calculating of the error value E operation, updating coefficients, by the feed-forward filter and the feedback filter, based on the error value E." Claims 36-37 have been cancelled without prejudice or disclaimer. Hence, the rejection of claims 36-37 under 35 U.S.C. §103(a) over Shiue et al. (USPN 6,816,5498) and/or the admitted prior art figure 2 of the instant application is now moot.

Hence, it is respectfully submitted that amended claim 34 is patentable under 35 U.S.C. §103(a) over Shiue et al. (USPN 6,816,5498) and/or the admitted prior art figure 2 of the instant application, alone or in combination. Since claim 35 depends from amended claim 34, claim 35 is patentable under 35 U.S.C. §103(a) over Shiue et al. (USPN 6,816,5498) and/or the admitted prior art figure 2 of the instant application, alone or in combination, for at least the reasons that amended claim 34 is patentable under 35 U.S.C. §103(a) over Shiue et al. (USPN 6,816,5498) and/or the admitted prior art figure 2 of the instant application, alone or in combination.

NEW CLAIM:

New claim 38 recites that the features of the present invention include a method of performing a channel equalization with respect to symbols of an input signal in a single carrier receiver wherein a pre-ghost of respective symbols of the input signal is removed by a feed-forward filter to output a signal M and a post-ghost of respective symbols of the input signal is removed by a feedback filter to output a signal L, a resultant sum signal Y is formed by summing signals M and L, and the resultant sum signal Y is trellis decoded to provide trellis-decoded symbols, the method comprising: determining a level of the resultant sum signal Y to be a nearest one among predetermined levels and outputting a signal D of the determined level; and calculating an error value E as a difference between the resultant sum signal Y and the signal D

of the determined level and a SNR corresponding thereto, wherein, when the SNR corresponding to the error value E is equal to or greater than a predetermined threshold, the plurality of trellis-decoded symbols are input to the feedback filter to enhance post-ghost removal filtering.

Nothing in the prior art teaches or suggests such. It is submitted that this new claim distinguishes over the prior art.

CONCLUSION:

In accordance with the foregoing, it is respectfully submitted that all outstanding objections and rejections have been overcome and/or rendered moot, and further, that all pending claims patentably distinguish over the prior art. Thus, there being no further outstanding objections or rejections, the application is submitted as being in condition for allowance which action is earnestly solicited.

If the Examiner has any remaining issues to be addressed, it is believed that prosecution can be expedited by the Examiner contacting the undersigned attorney for a telephone interview to discuss resolution of such issues.

If there are any underpayments or overpayments of fees associated with the filing of this Amendment, please charge and/or credit the same to our Deposit Account No. 19-3935.

Respectfully submitted,

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